



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/833,367	04/12/2001	Shimen K. Claxton	12-1147	3126

23400 7590 01/19/2007
POSZ LAW GROUP, PLC
12040 SOUTH LAKES DRIVE
SUITE 101
RESTON, VA 20191

EXAMINER

MEHRA, INDER P

ART UNIT	PAPER NUMBER
----------	--------------

2617

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/833,367

Applicant(s)

CLAXTON ET AL.

Examiner

Inder P. Mehra

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-7 and 11-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-7 and 11-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/2/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This is in response to amendment dated:10/31/06. Based on this amendment, claims 2-7, 11-17 and 20-23 are pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2, 6-7, 11, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Eizenhofer** (US Patent No. 4,763,322), hereinafter, Eizenhofer, in view of **Robbins** (US Patent No. 5,293,633), hereinafter, Robbins.

4. For claims 2, 11, and 17, Eizenhofer discloses a time multiplexed multiple carrier transmitter, (refer to fig. 3, col. 7 lines 17-27): comprising:

- a first data encoder (2 in fig. 3) for producing first transmit data, (refer to col. 7 lines 16-17);
- a second data encoder different from the first data encoder for producing second transmit data (3 in fig. 3, refer to col. 7 lines 16-17);
- a digital multiplexer coupled to the first and the second data encoder (TDM Multiplexer, (fig. 3, col. 7 lines 24-29);
- a power amplifier, (12 in fig. 3, col. 7 lines 60-61);

Art Unit: 2617

- a transmit frequency upconverter coupled between the transmit signal output and the power amplifier, (refer to “output of multiplexer is multiplied with code words and mixed with oscillator---further mixer oscillator as frequency synthesizer with in the frequency range of digital radio transmission system”, col. 7 lines 34-54);
- a multiplexer control circuit (control circuit 13 in fig. 3) coupled to the digital multiplexer (3 in fig. 3) through a multiplexer control input ---select between the first and second data encoders (col. 7 line 65 through col. 8 line 3);
- and according to a predetermined transmit schedule (providing time slots of different duration --- permitting mobile stations to be assigned to time slots”, col. 3 lines 5-9).
- wherein the predetermined transmit schedule is configured to select the first data encoder more frequently than the second data encoder in order to control a predetermined target power delivered to receiver, **as recited by claim 2, 11, and 20** (Dynamic allocation means that a user is allotted as many time slots as he needs for transmission, col. 2 lines 42-44, further, “time slots have different time duration to be optimized by users with different bandwidth requirements, col. 3 lines 12-15).
- further comprising applying at least three channels of transmit data to the digital multiplexer and wherein digitally multiplexing comprises digitally multiplexing between the first, second and at least third transmit data under control of the multiplexer control signal to generate a transmit signal, **as recited by claims 17, and 21, refer to fig. 3, col. 7 lines 24-28).**

Eizenhofer discloses intermediate frequency as output of oscillator 6 and modulated with

Art Unit: 2617

code word, refer to col. 7 lines 40-45. Eizenhofer does not disclose explicitly the following limitation, which is disclosed by Robbins, as follows:

* “a control circuit coupled to --- **an intermediate frequency control input**, --- to assert an intermediate frequency selection signal, --- to generate the transmit signal output at one of preselected transmit frequencies”, as **recited by claim 20**, refer to col. 7 lines 24-33,

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the capability of “control circuit introducing an intermediate frequency control input, to assert an intermediate frequency selection signal,” This capability can be combined at the controller (computer) of Robbins. The suggestion/motivation to do so would have been to avoid interference of audio signals, which use conventional analog sound circuits.

For claims 6-7, Eizenhofer discloses the subject matter including the following limitations:

- a third/ fourth data encoder, *as recited by claims 6 and 7*, for producing third transmit data (digital channels and number of portables, col. 2 lines 10-15), the third data encoder coupled to the digital multiplexer, and the multiplexer control signal selecting one of the first, second and third data encoders according to the predetermined transmit schedule, (refer to fig. 3, col. 7 lines 26-28).

Art Unit: 2617

5. Claims 3-4 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Eizenhofer**, in view **Robbins**, as applied to claims 2 and 11 above, and further in view of **Judd et al** (US Patent No. 6,701,137), hereinafter, Judd.

For claims 3-4, 12-14, Eizenhofer in view of Robbins disclose all the limitations of subject matter of these claims except the following limitations, which are disclosed by Judd, as follows:

- “a digital to analog converter coupled between the digital multiplexer and the transmit frequency upconverter”, **as recited by claim 4**; “a digital to analog converter coupled between the transmit frequency upconverter and the power amplifier, **as recited by claim 3**, refer to 24, 28, 26 and 30 in fig. 1, col. 3 lines 1-10;
- wherein frequency upconverting comprises digital frequency upconversion to provide an upconverted signal, **as recited by claim 12**, refer to 30 in fig. 1.
- “digital to analog converting the transmit signal”, **as recited by claims 13-14**, refer to 28 in fig. 1.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the capability of “a digital to analog converter coupled between the digital multiplexer and the transmit frequency upconverter”, and “digital to analog converting the transmit signal”. The capability can be combined at the transmitter. The suggestion/motivation to do so would have been to perform frequency conversion for digitally adaptive systems.

Art Unit: 2617

6. Claims 5, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eizenhofer, in view Robbins, as applied to claims 2 and 11 above, and further in view of **Martone et al** (US Patent No. 6,603,806), hereinafter, Martone.

For claims 5, 15, and 16, Eizenhofer in view of Robbins disclose all the limitations of subject matter of these claims with the exception of the following limitations, which are disclosed by Martone, as follows:

- encoders includes a first intermediate frequency upconverter, refer to fig. 7, refer to col. 6 lines 46-53.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the capability of “a digital to analog converter coupled between the digital multiplexer and the transmit frequency upconverter”, and “digital to analog converting the transmit signal”. The capability can be combined at the transmitter. The suggestion/motivation to do so would have been to perform frequency conversion for digitally adaptive systems.

Allowable Subject Matter

7. Claims 20-23 are allowed.

8. The following is an examiner's statement of reasons for allowance:

The prior art of record does not disclose, teach or suggest directly, or indirectly the following limitations in combinations with other limitations of the claims

As recited by claim 20,

“a multiplexer control circuit coupled to the multiplexer control input, the transmit

frequency control input and an intermediate frequency control input, the multiplexer control circuit coordinated by a transmit schedule to assert an intermediate frequency selection signal, a transmit frequency selection signal and a multiplexer control signal for selecting from each of the first and second transmit data inputs to generate the transmit signal output at one of preselected transmit frequencies, wherein the transmit schedule provides a non-uniform time division between the selection of the first and second transmit data inputs in order to control the target power delivered to a receiver.

Response to Arguments

9. Applicant's arguments filed 2-7, 11-17 and 20-23 have been fully considered but they are not persuasive.

Applicant argues, "the Examiner alleges that Eizenhofer teaches a multi-carrier transmitter, however a close review of Eizenhofer fails to reveal a multi-carrier transmitter and instead refers consistently to single carrier for practicing the invention disclosed therein, which relates to establishing time slots of different durations on a single carrier. Applicants note that Eizenhofer indicates only conditionally that if a large number of channels are needed, different frequency carriers may be used and the channel allocation scheme described therein can be duplicated on each carrier.

In response to applicant's arguments, the recitation "multiplexed multiple carrier transmitter" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend

Art Unit: 2617

on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). However, Eizenhofer discloses, "The different channel sets are transmitted with different RF carrier frequencies. In FIG. 2 the channel sets 1 and 2 are allocated to the base station BS1. For both channel sets allocated to the base station BS1 the same codewords can be used because they are transmitted **at different carrier frequencies** (which are multiple carriers), refer to col. 6 lines 44-52.

Applicants note that, despite the Examiner's characterization, Eizenhofer fails to disclose the claimed multiplexer control circuit. In attempting to establish a correspondence between the features of Eizenhofer and the claimed multiplexer control circuit, the Examiner alleges that coupler 13 amounts to the claimed multiplexer control circuit. Applicants strongly disagree with this characterization. A close review of the description reveals, importantly, that coupler 13 is an antenna coupler and not a multiplexer control circuit as alleged. Specifically, coupler 13 is optional and is not required for base stations with less than 32 channels (see, e.g. col. 7, line 65). The claimed multiplexer control circuit is specifically recited as selecting between a first and second data encoder according to a predetermined transmit schedule. Coupler 13 of Eizenhofer does not perform such a function.

In response, Examiner states that Coupler 13 is typographical error.

In response, Examiner, further, states that claimed multiplexer control circuit is disclosed by Eizenhofer explicitly, see control circuit 15 in fig. 3, refer to col. 7 line 66 through col. 8 line 3, Eizenhofer discloses, "A control circuit 15 --- takes care of the **setting of channel** and code generators, the correct choice of channel coding and the addition of announcements in the

organization data flow. **The transmission channel selected for this purpose may be a TDM channel in a CDM plane**".

Applicant argues, "Assuming, arguendo, that the multiplexing of data into a TDM slot can be considered selecting between a first and second data encoder according to a predetermined transmit schedule, Eizenhofer still fails to disclose that the first data encoder is selected more frequently than the second data encoder in order to control a predetermined target power delivered to a receiver".

Further, Applicant argues, "It is critical to note that the duration of the slot cannot be changed once it is assigned".

In response, Examiner states that Eizenhofer discloses, "the characters or sequences of characters of various users are interleaved and are sent out with a correspondingly higher bit rate, **the time channel, allocated to each user being periodically repeated** after the duration of each frame period.", refer to col. 1 lines 40-45.. This an explicit disclosure of "**selected more frequently**".

Further, Examiner states that multiple slots in longer duration of time slot constitutes the same thing as "more frequently", because if I select "A" five times more than "B" is the same as making the duration of "A" five times longer than "B". However, **the time channel, allocated to each user being periodically repeated** after the duration of each frame period.", refer to col. 1 lines 40-45.. This an explicit disclosure of "**selected more frequently**".

Art Unit: 2617

Applicant argues, “the Examiner appears to have applied Eizenhofer in a piecemeal fashion in an attempt to find some of the features of the claimed multiplexer control circuit and not others, yet, to properly find obviousness, the features must be present in the applied reference or combination of references in the manner claimed. To do otherwise is a classic indication of **the application of improper hindsight**, e.g. use of the applicants' specification as a road map to piece together isolated aspects of the prior art in a wishful attempt to arrive at the invention.

Further, Applicant argues, accordingly, *prima facie* case of obviousness has not been established in that 1) the applied art combination is improperly motivated; 2) the references teach away from each other and from the claimed invention; and 3) the applied art combination, even if properly motivated and/or even if not containing an explicit teaching away, fails to teach or suggest all the claimed features of the invention. For at least these reasons, the rejection should be withdrawn as to independent claims 2, 11 and 20.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

“The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference.... Rather, the test is what

Art Unit: 2617

the combined teachings of those references would have suggested to those of ordinary skill in the art.” In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). See also In re Sneed, 710 F.2d 1544, 1550, 218 USPQ 385, 389 (Fed. Cir. 1983) (“[I]t is not necessary that the inventions of the references be physically combinable to render obvious the invention under review.”); and In re Nievelt, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973) (“Combining the teachings of references does not involve an ability to combine their specific structures.”).

However, the claimed combination cannot change the principle of operation of the primary reference or render the reference inoperable for its intended purpose. See MPEP § 2143.01

Under MPEP 2131.05, A reference is no less anticipatory if, after disclosing the invention, the reference then disparages it. The question whether a reference “teaches away” from the invention is inapplicable to an anticipation analysis. *Celeritas Technologies Ltd. v. Rockwell International Corp.*, 150 F.3d 1354, 1361, 47 USPQ2d 1516, 1522-23 (Fed. Cir. 1998) (The prior art was held to anticipate the claims even though it taught away from the claimed invention. “The fact that a modem with a single carrier data signal is shown to be less than optimal does not vitiate the fact that it is disclosed.”). >See *Upsher-Smith Labs. v. PamLab, LLC*, 412 F.3d 1319, 1323, 75 USPQ2d 1213, 1215 (Fed. Cir. 2005)(claimed composition that expressly excluded an ingredient held anticipated by reference composition that optionally included that same ingredient);< see also *Atlas Powder Co. v. IRECO, Inc.*, 190 F.3d 1342, 1349, 51 USPQ2d 1943, 1948 (Fed.

Art Unit: 2617

Cir. 1999) (Claimed composition was anticipated by prior art reference that inherently met claim limitation of “sufficient aeration” even though reference taught away from air entrapment or purposeful aeration.).

Applicant argues , “It should be noted that in accordance with the cited West German Patent DE-PS No. 31 05 199 (which incidentally the Examiner has failed to cite in a PTO form 892 while relying on a teaching therefrom) the dynamic allocation of time slots is still fixed with regard to a particular user and access session.

In response, Examiner states that this reference was never cited in office action, let alone teachings of this document.

In light of above explanation, arguments by applicant are not persuasive.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 2617


Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Inder P. Mehra whose telephone number is 571-272-3170. The examiner can normally be reached on Monday through Friday from 8AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Inder Pal Mehra 1/15/07
Inder P Mehra
Examiner
Art Unit 2617


JOHN PEZZLO
PRIMARY EXAMINER